

GS 23. (Twice amended) A recombinant DNA construct comprising a vector and an isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB), wherein said DNA fragment has the sequence according to sequence of SEQ ID NO:9.

Please add new claim 110.

66 SUB H2 --110. (New) An isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) in which the amino acids at positions 18-28, 55-65, and 205-215 of SEB have been altered such that binding of said encoded SEB to the MHC class II receptor and T cell antigen receptor is altered. --

#### REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

With the entry of this amendment, claims 1, 4-6, 12-14, 18, 21-23, 29-31, 37-39, 43, 44, 47-49, 53, 56-58, 62, 65-67 and 110 are pending. By the above amendments, we have amended claim 1 to clarify the invention, support for which is found in the specification on page 17, line 29 through page 21, line 17 (especially page 18, lines 1-7, 25-30 and 33-34; page 19, lines 1-2; page 20, lines 32-35; page 21, lines 1-21). Also see page 30, lines 14-22, and Examples 4 and 7. We have amended claims 4, 5, 6, 12, 13, 14, 21, 22 and 23 delete the phrase "or a portion thereof" and to make these claims independent so as not to be construed as improperly dependent, as suggested by the Examiner in the January 2, 2002 Office Action. We have added new claim 110, support for which is found in original claim 37, which claims the DNA construct pETB2360210 that contains these alterations in its DNA. Support is also found in SEQ ID Nos: 5 and 6, which contain these alterations.

In the January 2 Office Action, the Examiner rejected claims 1, 4-6, 12-14, 18, 21-23, 29-31, 37-39, 43, 44, 47-49, 53, 56-58, 62, and 65-67 under 35 U.S.C. §112, first

paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the invention at the time the application was filed. In particular, the Examiner has questioned the amino acid ranges specified in claim 1, stating on page 1 of the Office Action:

"Claim 1 has been amended to refer to amino acid ranges 43-53, 63-75, 87-97, 103-113 of SEB. However, these ranges do not correspond to disclosed ranges of SEB for mutation. They are with respect to SEA. It appears that applicant may have intended the amino acid ranges 40-50, 62-72, 84-94 and 110-120 of SEB as disclosed on pages 19-20 of the specification. These ranges are within five amino acids of positions 45, 67, 89 and 115 of SEB."

We have amended claim 1 above to correctly identify the amino acid ranges of SEB, and not SEA, as noted by the Examiner. We have also included several other amino acid ranges (i.e., 18-28, 55-65, 86-96, 89-99, and 205-215), which were inadvertently left out of the claim previously. These added ranges are supported by the original disclosure as noted above. We have added new claim 110 which recites the particular amino acid ranges 18-28, 55-65, and 205-215, support for which is found in original claim 37, which recites the DNA construct pETB2360210 that contains these alterations in its DNA.

We have also amended claims 4, 5, 6, 12, 13, 14, 21, 22 and 23 delete the phrase "or a portion thereof" and to make these claims independent so as not to be construed as improperly dependent, as suggested by the Examiner.

It is submitted that the language of all the pending claims is fully supported by the disclosure as originally filed, and withdrawal of this rejection is believed to be in order.

In summary, all of the Examiner's outstanding rejections and objections have been addressed, and the application is believed to be in allowable form. Notice to that effect is earnestly solicited. No amendment made was related to the statutory requirements of patentability unless expressly stated herein, and no amendment made was for the purpose of narrowing the scope of any claim unless we argued above that such amendment was made to distinguish over a particular reference or combination of references.

App. of Ulrich et al.  
Ser. No. 08/882,431

If the Examiner has any questions or would like to make suggestions as to claim language, she is encouraged to contact Marlana K. Titus at (301) 924-9600.

Respectfully submitted,  
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MARKED-UP VERSION OF AMENDED CLAIMS

1. (Four times amended) An isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) in which at least [one] two amino [acid] acids selected from the group of amino acid positions of SEB consisting of [43-53 of SEB and at least one amino acid of amino acid positions 65-75, 87-97 and 103-113] 18-28, 40-50, 55-65, 62-72, 84-94, 86-96, 89-99, 110-120 and 205-215 [of SEB] have been altered such that binding of said encoded SEB to the MHC class II receptor and T cell antigen receptor is altered.

4. (Twice amended) An isolated and purified [DNA fragment according to claim 1] superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB), wherein said superantigen toxin is Staphylococcal enterotoxin B having the sequence of SEQ ID NO:5 [or a portion thereof].

5. (Twice amended) An isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [DNA fragment according to claim 1], wherein said superantigen toxin is Staphylococcal enterotoxin B having the sequence of SEQ ID NO:7 [or a portion thereof].

6. (Twice amended) An isolated and purified DNA fragment superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 1], wherein said superantigen toxin is Staphylococcal enterotoxin B having the sequence of SEQ ID NO:9 [or a portion thereof].

12. (Twice amended) An isolated and purified DNA fragment superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 1], wherein said fragment encodes the amino acid sequence of SEQ ID NO:6 [or a portion thereof].

13. (Twice amended) An isolated and purified DNA fragment superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 1], wherein said fragment encodes the amino acid sequence of SEQ ID NO:8 [or a portion thereof].

14. (Twice amended) An isolated and purified DNA fragment superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 1], wherein said fragment encodes the amino acid sequence of SEQ ID NO:10 [or a portion thereof].

21. (Twice amended) A recombinant DNA construct comprising a vector and an isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 18], wherein said DNA fragment has the sequence according to sequence of SEQ ID NO:5 [or a portion thereof].

22. (Twice amended) A recombinant DNA construct comprising a vector and an isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 18], wherein said DNA fragment has the sequence according to sequence of SEQ ID NO:7 [or a portion thereof].

23. (Twice amended) A recombinant DNA construct comprising a vector and an isolated and purified superantigen toxin DNA fragment encoding Staphylococcal enterotoxin B (SEB) [according to claim 18], wherein said DNA fragment has the sequence according to sequence of SEQ ID NO:9 [or a portion thereof].